

REMARKS

Claims 1-10, 12-23, and 31-36 are pending and have been rejected.

Claim Rejection - 35 USC 103(a)

Claims 1-10, 12-23, and 30-36 are rejected under 35 USC 103(a) as being unpatentable over Hutkins et al. (US 5,186,962) in view of Franjione et al. and Gaier (US 5,645,877). The Final Office Action bases the rejection on “the reasons set forth in rejecting the claims in the last office action.” Applicants’ arguments filed on April 7, 2008, in response to the last office action, were not found to be persuasive.

The present invention relates to a food product comprising a pasteurized hydrated, edible food item. The claims provide that the food product is at a temperature state of less than 10° C, and comprises encapsulated, dormant, hydrated nontoxic microorganisms that are effectively dormant up to temperatures of about 10° C., and wherein, if the food product reaches a temperature above 10° C., the nontoxic microorganisms release by-products into the food product that inhibit the growth of harmful microorganisms. The by-products in some embodiments are acids, which lower the pH of the food product. See, e.g., p. 17, line 28 – p. 18, line 12, claim 2. Because the microorganisms are encapsulated, the hydration of the culture is slowed and the microorganisms are better protected from inactivation by heat processing during packaging operations. See page 6, lines 3-20. In one embodiment, the encapsulation material dissolves prior to any temperature abuse of the product. See page 10, lines 9-11. In other embodiments, the encapsulation material forms a gel that keeps the microorganisms from dispersing until exposure to temperature above about 10° C, at which point the gel releases the microorganisms. See page 11, lines 17-22.

The primary reference, Hutkins et al., does not disclose providing encapsulated microorganisms, nor dormant, hydrated nontoxic microorganisms that are effectively dormant up to temperatures of about 10° C. Hutkins et al., in contrast, disclose a food product that contains bacteriocin-producing bacteria that produce the bacteriocin under all conditions, including at refrigeration temperatures (below 10° C.). The bacteriocin is produced specifically without the production of acids, and without changes in pH. See

column 12, lines 37-42, 50-55. The bacteria are expressly required to be active at temperatures of 1°-7° C. See column 4, lines 60-63. The skilled artisan would not have a reason to modify the bacteria described by Hutkins et al. to be like those in the present claims, because such a modification would destroy a fundamental objective of the reference, which is to have active bacteria at refrigeration temperatures. Similarly, the skilled artisan would not have a reason to modify Hutkins et al. to encapsulate bacteria, because encapsulating the disclosed bacteria would inhibit production of bacteriocin at refrigeration temperatures, which again would destroy the fundamental objective of the reference.

Thus, it is respectfully submitted that none of the pending claims are rendered obvious by the Hutkins et al. disclosure. Hutkins et al. do not disclose all of the features of the claims of the present invention. In particular, the reference does not disclose the use of dormant, encapsulated microorganisms. In addition, neither Franjione et al. nor Gaier alone or in combination bridge the gap between Hutkins et al. and the present claims, as discussed below. Neither reference discloses dormant, encapsulated microorganisms, as discussed in more detail below. Furthermore, there is no reason or evidence in the references themselves that warrants combining the references as set forth in the Final Office Action.

Franjione et al. is cited for disclosing the use of encapsulation in food products to shield an active ingredient from the surrounding environment. See page 1. The method of encapsulation taught is co-extrusion. The encapsulated, active ingredient may be released from encapsulation by mechanical rupture, dissolution or melting of the capsule wall or by diffusion through the wall. See page 1. Franjione et al., however, do not teach encapsulating dormant, hydrated nontoxic microorganisms that are effectively dormant up to temperatures of about 10° C., and wherein, if the food product reaches a temperature above 10° C., the nontoxic microorganisms release by-products into the food product that inhibit the growth of harmful microorganisms. The reference provides no information of any kind that would lead the skilled artisan to encapsulate microorganisms of any kind, let alone microorganisms that are dormant except at certain temperatures. Thus, the reference does not remedy the shortcomings of Hutkins et al, and does not

render the claims of the present invention obvious either alone or in combination with Hutkins et al. and Gaier.

Gaier is cited for disclosing the use of *Streptococcus thermophilus* as a lactic bacteria in preparation of fermented food products. See column 3, lines 38-44. The process described in Gaier is very different from the presently claimed use of microorganisms, because Gaier uses the microorganisms to instead produce the food product. See column 1, lines 28-33. There is no reason to include a dormant stage or to encapsulate the microorganisms during production of the food product. Thus, Gaier does not disclose encapsulating dormant, hydrated nontoxic microorganisms that are effectively dormant up to temperatures of about 10° C., and wherein, if the food product reaches a temperature above 10° C., the nontoxic microorganisms release by-products into the food product that inhibit the growth of harmful microorganisms. Therefore, Gaier does not remedy the shortcomings of Hutkins et al. and Franjione et al., nor does the reference render obvious the claims of the present invention.

It is, therefore, respectfully submitted that even in combination, Hutkins et al., Franjione et al., and Gaier do not disclose all of the features of the present claims, which include being a food product that is at a temperature state of less than 10° C, and that comprises encapsulated, dormant, hydrated nontoxic microorganisms that are effectively dormant up to temperatures of about 10° C., and wherein, if the food product reaches a temperature above 10° C., the nontoxic microorganisms release by-products into the food product that inhibit the growth of harmful microorganisms. Also, there is no reason provided or evidence found within the references themselves to support combining the references. The function of the primary reference, Hutkins et al., is destroyed by arbitrarily combining the reference with separate features from the secondary references, Franjione et al. and Gaier, through hindsight reconstruction. A skilled artisan would have no reason to completely change the construction and function of the products of the references in order to combine them and arrive at the presently claimed invention. Thus, Hutkins et al. in view of Franjione et al. and Gaier together do not render claims 1-10, 12-23 and 30-36 unpatentable.

CONCLUSION

In view of the above arguments, it is respectfully submitted that the present application is now in condition for allowance. Early favorable consideration and passage of the above application to issue is earnestly solicited.

In the event that a phone conference between the Examiner and the Applicants' undersigned attorney would help resolve any issues in the application, the Examiner is invited to contact said attorney at (651)275-9811.

Respectfully submitted,

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